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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,188	02/20/2001	John F.T. Conroy		3777
	7590	10/23/2003		
Pamela M. Norris 1509 Still Meadow Cove Charlottesville, VA 22901				
EXAMINER NAFF, DAVID M				
ART UNIT PAPER NUMBER				

1651

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No. 09/785,188	Applicant(s) CONROY ET AL.	
	Examiner David M. Naff	Art Unit 1651	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 26 September 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. **ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).**

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See attachment.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

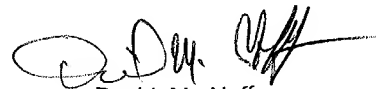
Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: _____.

Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____


 David M. Naff
 Primary Examiner
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ATTACHMENT TO FORM PTOL-303

The response of 9/26/03 presented arguments and did not amend the claims.

Applicants urge that claims 26 and 29 require a gel having
5 macropores, and that Hino et al does not describe macropores.

While macropores are not mentioned by Hino et al, the gel produced by Hino et al contains macropores due to addition of a polymer such as polyethylene glycol (col 4, line 62) functioning as a dispersant to form macropores as described in the present specification (paragraph
10 bridging pages 4 and 5, page 8, lines 10-11, and page 9, lines 13-19). The cells of Hino et al are entrapped in the gel (col 6, lines 55-60). When used to act on a substrate such as in a column as disclosed by Hino et al (col 9, lines 59-68), the substrate must pass into the gel. Effective conversion of a substrate continuously passing through a
15 column containing the gel will require the gel contain macropores so the substrate can enter the gel and be converted by the cells. The gel produced by Uo et al also contains macropores since polyethylene glycol is added to the sol.

It is granted as urged by applicants that Uo et al may require an
20 organic solvent that can be toxic to vegetative cells. However, claims 26 and 29 do not exclude an organic solvent, and do not exclude the harmful affect of an organic solvent on the cells. The present specification discloses having an organic solvent in the sol (paragraph bridging pages 4 and 5), and the claims require nothing to avoid the
25 toxicity of the organic solvent. If one ignores toxicity of the

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solvent on vegetative cells, the use of vegetative cells in combination with the solvent is obvious. Furthermore, Hino et al suggest that the organic solvent can be omitted by forming a sol and gel therefrom substantially as Uo et al without using an organic solvent. Knowing
5 that an organic solvent is toxic to vegetative cells as disclosed by Uo et al, one will obviously omit the solvent as in Hino et al when vegetative cells are used.

Contrary to applicants' argument, Uo et al and Hino et al are clearly combinable. The extrusion casting into an organic solvent of
10 Hino et al is optional and not critical. It would have been obvious to omit drying when the function of drying is not desired. In any event, claims 26 and 29 do not exclude casting into an organic solvent and drying.

Applicants urge that there is no requirement, statutory or
15 otherwise, that the claims recite the failings of a proposed combination of references. However, there is a statutory requirement for the claimed invention to be unobvious. The invention cannot be unobvious because of an element disclosed by a reference that causes an undesired result when the claims encompass the element. The claims are
20 interpreted as broadly as the claim language permits, and limitations not in the claims carry no weight in establishing unobviousness.

In regard to claim 28, applicants urge that neither Uo et al nor Hino et al disclose a bacterial spore. However, it would have been obvious to use a bacterial cell in Uo et al when the function of a
25 bacterial cell is desired as disclosed by Hino et al since the sol and

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gel forming methods of Uo et al and Hino et al are very similar. Since Uo et al disclose that an organic solvent used is toxic to yeast cells not in spore form, it would have been obvious to use a bacterial spore when bacteria rather than yeast is being entrapped in the gel. In addition, claim 28 does not exclude an organic solvent that applicants urge is required by Uo et al and is toxic to cells not in spore form.

In regard to claim 15, applicants urge that there is no requirement, statutory or otherwise, that the claim contains a teaching away from a combination of references. However, there is a statutory requirement that the claimed invention be unobvious. When the claimed invention encompasses elements the references teach, the invention cannot be unobvious for not using the elements. Claim 15 encompasses yeast spores and an organic solvent as disclosed by Uo et al, and the present specification discloses that an organic solvent can be present.

Applicants urge that arguing that claim 15 does not exclude spores, and that an organic solvent can be used in combination with spores as disclosed by Uo et al represents an unjustified shifting of the burden of proof to applicants to establish with certainty that the proposed combination will not succeed, rather than requiring the office to establish a suggestion to combine the cited references and a reasonable expectation of success with the combination. However, the disclosures of the references clearly provide a suggestion and motivation for combining their teachings as stated in the rejection to establish a *prima facie* case of obviousness. When *prima facie* obviousness is established, the burden of proof properly shifts to

applicants. Furthermore, if applicants establish that a combination will not succeed, the claims must be limited to not encompass the combination, and be unobvious from the combination.

Applicants urge that Klein et al require excess ethanol to permit
5 solubility of the additional water. However, the present specification discloses that an organic solvent can be present, and claim 15 encompasses the amount of ethanol used by Klein et al. It would have been obvious to use in Uo et al the higher amount of water disclosed by Klein et al to obtain the results of a higher amount of water taught by
10 Klein et al.

Applicants urge that it is unclear why the properties disclosed by Klein et al resulting from the water content used would be desirable in the claimed invention. However, an increased rate of hydrolysis from a higher amount of water taught by Klein et al would have obviously been
15 advantageous to produce the sol of Uo et al and of claim 15 to shorten the time required for hydrolysis. The biological material of claim 15 can be a spore, and Uo et al disclose that using a spore avoids the toxicity of an organic solvent that can be present in claim 15 as described in the specification. When the references are considered
20 together as a whole, the invention of claim 15 and claims dependent thereon is clearly *prima facie* obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 703-308-0520. The examiner can normally be
25 reached on Monday-Friday 9:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 703-308-4743. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

5 Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

10



David M. Naff
Primary Examiner
Art Unit 1651

DMN

15 10/22/03